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PART 2

Your attention is invited

**NEWS
OF THE
SANITARY
ENGINEERING
DIVISION
OF
ASCE**



**JOURNAL OF THE SANITARY ENGINEERING DIVISION
PROCEEDINGS OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS**



DIVISION ACTIVITIES

SANITARY ENGINEERING DIVISION

Proceedings of the American Society of Civil Engineers

ANNUAL REPORT OF DIVISION ACTIVITIES SANITARY ENGINEERING DIVISION OCTOBER 1959 TO OCTOBER 1960

EXECUTIVE COMMITTEE

COMMITTEE MEMBERS:

The Sanitary Engineering Division Executive Committee membership included Lewis A. Young (1961) Chairman, John J. Baffa (1962) Vice-Chairman, H. Loren Thompson (1963), Ray E. Lawrence (1960), Samuel S. Baxter (1960) and David H. Howells, Secretary. Mr. Baxter, a member of the Board of Directors, was appointed by the Board as their representative on the committee. Mr. Dwight F. Metzler has been appointed to succeed Mr. Ray E. Lawrence at the expiration of his term in October, 1960.

SED CONFERENCE:

The Division held its first conference in Cincinnati, January 6-8, 1960. Its theme was, "The Economics of Pollution Abatement, Air, Land and Water." The Conference was organized and conducted by a special committee under the leadership of Mr. Arthur D. Caster.

NEWSLETTER:

Mr. John R. Thoman, SED News Editor and his staff of Assistant Editors, Professor Gilbert H. Dunstan, Walter A. Lyon, Phillip N. Storrs and James H. McDermott have done an excellent job of reporting news of interest to the Division members. The Committee complimented them on a job well done and in their behalf thanked those who have assisted during the past year. It is hoped that all the members of the Division will lend their support to the Editor in his effort to continue the development of the news.

PUBLICATIONS:

The Manual of Engineering Practice "Design and Construction of Sanitary and Storm Sewers" has been published.

COORDINATING COMMITTEES:

The Society Water Resources Coordinating Committee met in Reno, Nevada. Mr. Kennedy with the help of Mr. Lawrence represented SED on this committee from its inception. Suggestions have been received from Mr. Finley B. Laverty, Chairman of WRCC regarding reorientation of the SED programs related to water resources. The SED Water Supply Engineering

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Committee has a task group preparing a review of its activities setting forth general areas of interest and responsibility for the Sanitary Engineering Division under the multiple division program of the Water Resources Coordinating Committee.

The need for a Society Nuclear Coordinating Committee has been discussed. Mr. Lyman D. Wilbur, Chairman of a Special Task Committee has polled the interested divisions regarding the need for such a committee. SED has recommended the establishment of a Nuclear Coordinating Committee.

Mr. Arthur D. Caster is Chairman of the Society Coordinating Committee of Civil Defense. The Committee presented a program to the Committee on Division Activities.

Some thought has been given to the establishment of a Society Coordinating Committee on Municipal Planning. SED has been invited to meet with the City Planning Division to clarify those phases of environmental planning of particular importance to Sanitary Engineers.

COOPERATION WITH OTHER SOCIETIES:

The SED continues its close cooperation with the American Sanitary Engineering Intersociety Board. Richard Hazen (1960), Blucher A. Poole (1961) and Thomas R. Camp (1962), Chairman, are the ASCE representatives.

Professor John Kiker was appointed as the ASCE representative on Standards Project A-40 of the American Standards Association.

ADMINISTRATIVE COMMITTEES:

Committee on Rudolph Hering Medal

The Committee on the Rudolph Hering Medal is composed of William W. Aultman, Chairman; Earnest Boyce, and Nelson L. Nemerow. The Committee nominated Charles G. Gunnerson to receive the 1960 Rudolph Hering Medal.

Committee on Session Programs

The Committee on Session Programs was chaired by Mr. Vinton Bacon. The other members of the committee are Mr. C. Richard Walter, who is the incoming chairman for 1961; Mr. Richard H. Kennedy, Mr. Darrell Root and Mr. H. Loren Thompson, contact member from the Executive Committee. This Committee has been very active throughout the year, working very closely with the local chairmen in charge of the conventions. They met in Boston on October 11, 1960, to plan for ASCE meetings subsequent to the Phoenix Convention. Mr. C. Richard Walter will assume the Chairmanship in 1961.

Committee on Publications, John B. Nesbitt, Chairman

During the year, the Committee reviewed or is now reviewing twenty-one papers. Of these papers, ten were accepted for publication, four were declined, and seven are still in the process of being reviewed.

The Committee held one meeting during the year on January 5, 1960, in conjunction with the SED Conference in Cincinnati, Ohio. Minutes of this meeting have been transmitted to the SED Executive Committee.

As a result of this Committee meeting, the following have occurred:
1. Several appeals have been made in the SED Newsletter informing the members of the sanitary engineering profession of the importance of individual contribution to the literature. Cut-out blanks were provided upon which the membership could suggest topics (with suggested authors) which they would like to see discussed in the Journal. Several suggestions have been

2. Considerable discussion evolved regarding the "Publications Procedures" and "Standards for Journal Papers" that were adopted on October 18 and November 2, 1959. The Committee's feelings on these documents were summarized in a letter to the SED Executive Committee.
3. The analysis of previously published SED papers that was prepared by Santry was published in the SED Newsletter.

At the request of Mr. William H. Wisely, the Committee has given serious consideration to the new tentative "Standards and Procedures for Reviewing Proceedings Papers," and "Author's Guide to the Publications of the ASCE." Thoughts on these papers were transmitted to Mr. Wisely with a copy to the SED Executive Committee.

Research Committee, Nelson Nemerow, Chairman

The Sanitary Engineering Division Research Committee attempts to "bridge the gap" between research and design. The committee attempts to (1) Stimulate needed research. Lately it has been necessary to find financial assistance for researchers in order to "stimulate" needed research; (2) Ferret out new and valuable research efforts; (3) Summarize these in the form of a Report presented at meetings for publication as Proceedings Papers in the Journal, and (4) Evaluate with a view towards engineering design the implications of the research.

Accomplishments during the year include:

1. Published the following Research Reports in the Journal:
 - No. 24 Educational Solid Wastes Disposal Survey
 - No. 25 Seminar on Sanitary Engineering Research
 - No. 26 Refuse Volume Reduction in a Sanitary Landfill
 - No. 27 Man Versus Environment
 - No. 28 Automatic System for Monitoring Water Quality
 - No. 29 Solubility of Atmospheric Oxygen in Water
2. Held a Committee meeting in Cincinnati January 5-8, 1960.
3. Suggested papers for Phoenix meeting.
4. Wrote to Secretary Flemming concerning the inclusion of engineering colleges in the proposed institutional grant program.
5. Wrote F. K. Erickson (USPHS) concerning Flemming's news release on institutional grants.
6. Wrote our Secretary, Dave Howells, on April 13 concerning the advantages of the inclusion of engineering colleges in the institutional grant program.
7. Recommended Research Prize Award.
8. Wrote Mark Hollis concerning Reuse Research Proposal.
9. Submitted Research Proposal on Reuse of Wastewater to Mark Hollis.
10. Suggested two research projects for inclusion in "100 Problems in Environmental Health" to Dr. Heukelekian.
11. Suggested paper on Water Resources for Phoenix Meeting to Col. E. H. Lang.
12. Wrote Dean Gotaas concerning operation of our Committee in stimulating research.
13. After receiving communication from Dr. Hollis concerning Reuse Research Proposal and soliciting Committee's opinion, we have agreed to submit four introductory individual proposals on this subject to NIH by November 1, 1960.

TECHNICAL COMMITTEES:**Committee on Industrial Waste Practice, S. Leary Jones, Chairman**

The Committee on Industrial Waste Practice has made several attempts to hold meetings but travel restrictions imposed upon some of the members have prevented a Committee meeting. The Chairman has organized the Committee by correspondence and has outlined a comprehensive program for the group.

Committee on Public Health Activities

The Committee on Public Health Activities is composed of Wilson W. Towne, Chairman, Bernard B. Berger, Emil C. Jensen, Dwight F. Metzler, Charles L. Senn and Ray E. Lawrence, contact member. Committee program is currently being reorganized. Mr. Charles L. Senn will assume the Chairmanship in 1961.

Committee on Sanitary Engineering Aspects of Nuclear Energy

Mr. James G. Terrill, Jr., Chairman of the Committee of Sanitary Engineering Aspects of Nuclear Energy, submitted to Mr. Lyman D. Wilbur, Chairman of the Task Committee studying the need for a Coordinating Committee on Nuclear Energy, justification for such a committee. Mr. Terrill's statement was forwarded with a letter of approval by the Sanitary Engineering Division Executive Committee. The other members of this committee are Sherwood Davies, Benjamin B. Ewing, Arthur E. Gorman, Warren J. Kauffmann, Ernest C. Tsivoglou and Ray E. Lawrence, contact member.

Committee on Water Supply Engineering

The Committee on Water Supply Engineering has established work groups with specific assignments on Water Hammer, Cost Benefits Studies of Public Water Supplies and Instrumentation. In accordance with the proposed program of the Water Resources Coordinating Committee, they have established a Task Committee to make specific recommendations regarding SED's responsibilities in the field of Water Quality Management. The Task Committee's report is to be presented at the Phoenix 1961 meeting of ASCE. The membership of this committee is as follows: Robert D. Mitchell, Chairman, Gerald E. Arnold, Paul D. Haney, Richard Hazen, John A. Logan and John J. Baffa, contact member.

Committee on Municipal Refuse Practices, M. H. Klegerman, Chairman

This Committee is preparing a series of reports on technical practices which will emphasize detailed procedures that are indicated by experience to be effective in the design and operation of municipal refuse incinerating plants.

Each report will cover a logical grouping of the material, to be published as Proceedings, Separates, or in Civil Engineering.

Accomplishments during the year include:

1. The Sanitary Engineering Division Conference in Cincinnati in January of 1960 was attended in part by all members of this Committee. This provided an opportunity for a Committee meeting including several of its Task Force members, for purposes of reorientation of objectives and procedures in line with the new ASCE policy regarding manuals of practices. It also permitted some discussion with various members of the SED Executive Committee.

ASCE Sanitary Engineering Division 1961-3--5

2. Follow-up on procedures adopted at this meeting has been nil. This is due entirely to negligence on the part of the Chairman. Unexpected absence in connection with work abroad on two separate occasions since the January meeting on top of normal work-load is partly responsible.
3. Three members of the Committee presented papers and discussions relating to refuse disposal at the January 1960 Cincinnati SED Conference.

Committee on Sewerage and Sewage Treatment, Kerwin L. Mick, Chairman

The objective of this Committee is to submit sectionalized reports as follows: Section I - Sewerage; Section II - Primary Treatment; Section III - Secondary Treatment; Section IV - Sludge Disposal; Section V - Financing and Legal Aspect; Section VI - Specialized Subjects. One or more sectionalized reports are to be submitted annually and each section is to be included for reporting not less than once in five years. The reports shall emphasize sanitary engineering applications, design bases, costs, increased technical proficiency, and sound engineering practice. To avoid duplication of work, efforts shall be made to develop cooperation with other organizations serving this field.

The work of this Committee is divided into six sections, or sub-committees, as follows:

Section No.	Sub-Committee Chairman	Status of Reports
I - Sewerage	Bowerman	First report published June 1956. Began work in September 1958 on a second report.
II - Primary Treatment	Cosulich	Letter from Cosulich Sept. 1, 1960 states first report is scheduled for early spring 1961.
III - Secondary Treatment	Edwards	First report published April 1958.
IV - Sludge Disposal	Taylor	Chairman Taylor appointed Nov. 1957. In August 1960 he reported considerable progress.
V - Financing and Legal Aspects	Haney	Report past due. Letter from Haney dated Aug. 18, 1959 reported some progress and estimated early 1960 for submission of a report.
VI - Specialized Subjects	Garber	Report on "Marine Disposal of Wastes" submitted to Secretary Howells July 29, 1960, to Publications Committee Aug. 23, 1960. Another report promised in next six months.

1961-3--6

SA 1

January, 1961

One Section VI report was submitted for publication during 1960.

Committee on Atmospheric Pollution, William T. Ingram, Chairman

The objective of this committee is to formulate a program of constructive activity and professional leadership in the field of engineering management of the air resource; to stimulate orderly presentation of technical materials for publication; to prepare and present information concerning engineering practices related to air resource management including air sanitation and its relation to community and environment; and to develop one or more manuals of practice on the subject as the need arises.

Accomplishments during the past year were as follows:

1. Assistance in preparation of session program at SED Conference in Cincinnati, January 1960.
2. Committee meeting during Cincinnati Conference.
3. Review of California State proposals for Air Pollution Standards.
4. Completion of Task Force reports in draft form for Task Force I, II-E, and III.
5. Task Force reports in progress on other sections of Report on Engineering Management of the Air Resource.
6. Preparation and recommendation to SED of a proposal to form a research Council on Air Resources Engineering. Request forwarded to ASCE by SED, approved by Committee on Research (ASCE) and now awaiting Board action at October meeting.
7. Negotiations by Chairman with Executive Secretary of Engineering Foundation to reserve up to \$40,000 to support projects to be recommended by Research Council on Air Resources Engineering in 1961.
8. Chairman represented ASCE at meeting on tentative standards for control of air pollution held in New Orleans, March 1960.
9. Chairman presenting paper before Industrial Hygiene Foundation in October 1960 on subject "Environmental Performance Standards: Their Place in Planning and Zoning Regulations." Paper based on Committee work.
10. Active liaison with ASTM Committee D-22 and with APCA under consideration, the latter at request of APCA.

EXECUTIVE COMMITTEE, SANITARY ENGINEERING DIVISION MEETING
October 9, 1960, Boston, Massachusetts

Attendance: THE EXECUTIVE COMMITTEE

Messrs. Lewis A. Young, Chairman; John J. Baffa, Vice-Chairman; Ray E. Lawrence; H. Loren Thompson; David H. Howells, Secretary; and Samuel S. Baxter, Contact Member.

OTHERS

Messrs. Don P. Reynolds, Assistant Secretary, ASCE; Richard R. Kennedy, SED Representative Water Resources Coordinating Committee; and Vinton W. Bacon, Chairman, Session Programs Committee.

1. EXECUTIVE COMMITTEE

The incoming member of the Executive Committee, Dwight F. Metzler, was selected as presiding Officer for Sanitary Engineering Division Sessions at the Phoenix Convention on April 10-11, 1961.

Two meetings of the Executive Committee will be scheduled for the year 1960-1961. One will be held on March 19 and 20, 1961, in Evanston, Ill. and the second in New York City in October, 1961.

The Session Programs, Public Health Activities, Water Supply Engineering, and Industrial Waste Practices Committees will be asked to attend the Evanston, Ill. Meeting. These four Committees and the Executive Committee will meet separately on March 19. On March 20 the Chairmen will meet with the Executive Committee.

2. ADMINISTRATIVE COMMITTEES

A. Cooperation With Local Sections

Committee was abolished and responsibilities were assumed by the Executive Committee.

B. Publications

The consistently high quality of the SED Journal and SED News was recognized.

The Secretary was asked to review publications procedures for session program papers, disposition of Cincinnati Conference papers, and current processing and review time for papers submitted to the Journal.

C. Rudolph Hering

No action called for.

D. Research

The Committee's program during the past year included the preparation of research reports for publication in the Journal, development of specific research proposals, and interest in legislation affecting sanitary engineering research. It was the opinion of the Executive Committee that this has been an outstanding program.

The Executive Committee recommended that the Research Committee schedule an early meeting in Cincinnati, Ohio, so as to become familiar with the research program of the Robert A. Taft Sanitary Engineering Center. Interests of the Committee in waste water reclamation and reuse are related to research activities at the Center and it was the feeling of the Executive Committee that such a visit coupled with a Research Committee meeting would facilitate greater coordination of research efforts.

E. Session Programs

The excellent work of the Session Programs Committee under the able leadership of Mr. Vinton W. Bacon was recognized.

In regard to the Phoenix Meeting, the Secretary was asked to request morning and afternoon SED sessions for April 10, a morning joint session with the Irrigation and Drainage Division on April 11, and afternoon SED session on April 11. The Executive Committee decided to request not less than four sessions for the New York Meeting (October 1961), four sessions for the Houston Meeting (February 1962) and a program of joint sessions along lines established by the Water Resources Committee for the Omaha Meeting (May 1962).

The appointment of Mr. Darrell A. Root to the Session Programs Committee was confirmed.

Recommendations that the Session Programs Committee should contact all Committees for suggestions as to programs and that a minimum of one or two sessions at each Convention should be devoted to several papers on the same general topic were adopted.

3. TECHNICAL COMMITTEES

A. Atmospheric Pollution

The work of this Committee during the past year in regard to the Cincinnati Conference, the preparation of task force reports, and in the development of proposals for the creation and administration of a Research Council on Air Resources Engineering was considered outstanding.

The Research Council initial membership was approved.

The Chairman was authorized to submit a proposal for "Interdisciplinary Studies of the Engineering Aspects of Air Pollution" to the Engineering Foundation contingent upon Council approval by the Board of Directors.

The Executive Committee endorsed the establishment of liaison between the Committee on Atmospheric Pollution and the Air Pollution Control Association.

B. Industrial Waste Practice

The Executive Committee asked its contact member to meet with the Chairman of the Committee on Industrial Waste Practice to discuss the Committee's program.

C. Municipal Refuse Practices

The Secretary was asked to determine the disposition of papers on municipal refuse practices, presented at the Cincinnati Conference.

D. Public Health Activities

The Executive Committee adopted a recommendation that the Public Health Activities Committee study either of the following two problems:

1. Significance of coliform organism density as an index of water quality for public water supply.
2. Public health aspects of metropolitan area planning directed toward the development of a recommended program for the Sanitary Engineering Division.

E. Sanitary Engineering Aspects of Nuclear Energy

The Executive Committee position that the primary purpose of the Coordinating Committee should continue to be coordination of Division programs and not creation of a separate division was reaffirmed.

The Session Programs Committee will be requested to invite the Committee on Sanitary Engineering Aspects of Nuclear Energy to suggest papers for one full session at the New York meeting in 1961 on changing tolerances of radioactivity for public water supplies, adequacy of radioactive waste treatment techniques, and effect of radioactive wastes on industrial water supplies.

F. Sewage and Sewage Treatment

Program reviewed by Executive Committee. No action indicated.

G. Water Supply Engineering

The Executive Committee appointed Mr. H. Loren Thompson SED representative on the Water Resources Coordinating Committee. Mr. Thompson will also serve as Executive Committee contact member to the Water Supply Engineering Committee.

The study by Mr. Paul W. Eastmen to define the subject matter of Water Quality Management, analyze deficiencies in available data, and outline a program of study for the Water Supply Engineering Committee was discussed. This report will be submitted to the Water Supply Engineering Committee by December 1, 1960, and will be submitted to the Executive Committee with Committee recommendations in sufficient time for Mr. Eastman to present an approved program to the Phoenix Meeting.

H. Civil Defense

The Executive Committee approved the appointment of Mr. A. H. Stevenson as Chairman of a Committee on Civil Defense pending approval of the establishment of this Committee by the Division Activities Committee.

A preliminary progress report will be requested from this Committee for the March Meeting of the Executive Committee.

SANITARY DIVISION, PENNSYLVANIA SECTION MEETS

Energy dissipation and stilling basins were the main topics of discussion at the October meeting of the Hydraulic and Sanitary Engineering Division of the Central Pennsylvania Section of ASCE.

Vernon M. Beard, Chief of Design Branch, Flood Control Division, Department of Forests and Waters, presented an illustrated discussion on hydraulic jump, types of jumps and types of stilling basins.

Paul E. Nylander, State Conservation Engineer, Soil Conservation Service, presented an illustrated discussion on drop spillways, scour basins, including the results of the Saint Anthony Stilling Basin Study.

With increased emphasis on flood control structures, methods of reducing energy inherent in heavy flows of water are becoming a matter of increasing concern if erosion and other related damage are to be prevented.

The Hydraulic and Sanitary Engineering Division appears to be growing by leaps and bounds. Recent meetings have seen an increase in attendance from 8 to 25 to 48 at the initial, second, and most recent meetings, respectively.

Officers of the Section are: Walter A. Lyon, Director, Division of Sanitary Engineering, Pennsylvania Department of Health, Chairman; George H. Geil, of Bourquard, Geil & Associates, Vice-Chairman; and I. A. Heckmiller, Hydraulic Engineer, U. S. Geological Survey, Secretary-Treasurer. Mr. E. H. Bourquard, of Bourquard, Geil & Associates, is Chairman of the Program Committee.

DID YOU KNOW THAT

Edmund B. Besseliervre resigned his position of Manager, Industrial Wastes Division, Kaighin & Hughes, Inc. Engineers, Toledo, Ohio, and has moved to Dallas, Texas where he will be available to assist industries in the

1961-3--10

SA 1

January, 1961

solution of their industrial waste problems.

Thomas A. Schrader, former assistant to the Director of the Soil Bank Division, U. S. Department of Agriculture, has accepted employment with the U. S. Fish and Wildlife Service in the position of assistant chief of the Branch of River Basin Studies.

Howard W. Mitchell, M. D., joined the staff of the California State Department of Public Health as the new chief of the Bureau of Occupational Health. Dr. Mitchell has just returned from Lebanon where he has been acting director of the School of Public Health in the American University of Beirut, Lebanon since 1958.

Charles Sponagle has been named Project Director of the Public Health Service's study of pollution of the Colorado River.

L. G. Rich has been named as the new head of the Civil Engineering Department at Clemson College, effective February 1, 1961.

Robinson W. Buck edited the November 1960 issue of this Newsletter, while your Editor was having a rest (?) in a hospital. Buck, son of Henry W. Buck, a Director of ASCE, is a Staff Engineer in the Public Health Service Atlanta Regional Office. Among his many talents, not the least of which was his substituting at the last minute in editing the Newsletter, can be included the directorship of the choir, while doubling as organist, for one of Atlanta's most important Churches.

WATER SUPPLY & POLLUTION CONTROL

MAUMEE RIVER BASIN SURVEYED

Water Inventory of the Maumee River Basin is a new report issued by the Ohio Water Commission. Of the 15 Inventory Reports thus far published, this is the second that gives a complete picture of the water resources, problems, and possible solutions in a single major drainage area. The Maumee River drains 6,586 square miles, of which 4,856 (74%) are in Ohio, 1,260 (19%) in Indiana, and 470 (7%) in Michigan. This report deals mainly with the Ohio portion, its 17 counties and 62 municipalities that have public water systems. In text, tables, and illustrations, the book presents economic factors affecting water use; requirements of municipalities, industries, agriculture, and recreation; projections of future needs; potential new sources and quantities available for maximum development. Sections are devoted to watershed management and flood control, both urban and rural.

The report shows the limitations on both underground supplies and reservoir storage in the Maumee River basin, but concludes that water needs of the future can be met by pipelines from Lake Erie when shortages inland justify the cost. Possible location of 240 miles of future pipeline, channel improvements in 15 major outlet streams, 5 multipurpose reservoirs, 13 underground water supply reservoirs, and 25 sewage disposal plants are shown in a summary section. Although not all objectives can be attained at once, the report concludes that orderly planning should proceed now, and that state, district, and local agencies should coordinate their efforts in a comprehensive basin-wide program.

Information concerning the report may be obtained from Ohio Water Commission, 1562 West First Avenue, Columbus 12, Ohio.

ASCE Sanitary Engineering Division 1961-3--11
CONTRACT AWARDED FOR WEST COAST SALINE WATER CONVERSION
DEMONSTRATION UNIT

A \$1,608,000 Office of Saline Water contract for the construction of a one million gallons per day sea water conversion demonstration plant at Point Loma, San Diego, California, has been awarded to the Westinghouse Electric Corporation of Pittsburgh, Pennsylvania.

Utilizing a multi-stage flash distillation process, the San Diego plant incorporated several features designed to permit flexibility for testing and for further improvements in economy. The one million gallon per day plant is expected to produce fresh water for about \$1 per thousand gallons including an allowance for a twenty-year amortization of the investment.

The San Diego plant represents a cooperative effort with the State of California Department of Water Resources which has agreed to contribute up to 50 percent of the construction cost. The City of San Diego will improve the access road to the plant and rough grade the site. The City will also purchase the product water of the plant for use in the city's water supply system.

SALINE WATER CONVERSION DEMONSTRATION PLANT ENGINEER
SELECTED

The Catalytic Construction Company of Philadelphia, Pennsylvania, has been selected for the architect-engineer assignment for the Roswell, New Mexico, saline water conversion demonstration plant.

The contract negotiated with Catalytic Construction Company is a cost-plus fixed fee contract not to exceed \$96,700. This price includes assistance in supervision of the construction of the plant. The Catalytic firm was selected from a group of 65 engineering firms considered for this assignment by an Interdepartmental Board of Review.

The Roswell plant is one of five such installations authorized under Public Law 85-883. Utilizing a forced circulation vapor-compression process, the plant will be designed to convert high salinity well water of the Roswell area to fresh at the anticipated rate of 250,000 to one million gallons per day.

TWO NEW OFFICE OF SALINE WATER REPORTS NOW AVAILABLE

Two new technical reports of the Office of Saline Water have been published and are for sale by the Department of Commerce. The reports are: "Development, Construction, and Testing of Osmionic Demineralizers," and "Evaluation of the Zone-Purification Process as a Method of Preparation of Potable Water from Sea Water."

"Development, Construction, and Testing of Osmionic Demineralizers" was prepared by the Southern Research Institute of Birmingham, Alabama. The report covers the research work carried out on developing a demineralization unit based on the osmionic process conceived at the University of Oklahoma. A small osmionic conversion unit was operated to obtain estimated costs of demineralization. Economic results obtained appear to be competitive with those of other processes. This is the first complete report covering the experimental work conducted to develop the osmionic process.

"Evaluation of the Zone-Purification Process as a Method of Preparation of Potable Water from Sea Water" reviews the third stage of an investigation carried out by the Battelle Memorial Institute to evaluate the zone-purification process as a method of desalting sea water. The results obtained during

1961-3--12

SA 1

January, 1961

the course of this research program have shown the zone-freezing process to be technically feasible, but preliminary appraisals of cost suggest it to be too costly to compete with other processes now being studied intensively.

Copies of these reports are for sale by the United States Department of Commerce, Office of Technical Services, Washington 25, D. C. "Development, Construction, and Testing of Osmionic Demineralizers" sells for \$2.25. To order this report specify order number PB 161862. The price of "Evaluation of the Zone-Purification Process as a Method of Preparation of Potable Water from Sea Water" is \$1.00. To order this report specify order number PB 161818.

STORY OF WATER TOLD IN BOOKLET

The story of water supply from the stream to the faucet has been told in a 15-page illustrated booklet issued recently by the Georgia Department of Public Health. Entitled "Science of Water Supply in Georgia", the booklet was written by W. H. Weir, director of the Department's Water Quality Service.

Sections of the booklet include "Water Conditions in Nature", which points out that where water is abundant there is always plant and animal life, and "Contamination in Natural Waters", which describes the effects of bacteria and other biological materials, as well as soil, which affect the quality of water. Other sections describe water supplies and water problems in Georgia cities, water purification and treatment, and water responsibilities of governments, industries and citizens.

Primarily written for students, teachers, and others interested in a clear and simple description of Georgia's water supplies, the booklet replaces an earlier edition that has been used in Georgia schools for many years.

Sample copies of the bulletin may be obtained from Roy J. Boston, Director Environmental Health Services, Georgia Department of Public Health, Atlanta, Georgia.

SUMMARY OF MARINE WASTE DISPOSAL RESEARCH PROGRAM IN CALIFORNIA

The California State Water Pollution Control Board recently issued Publication No. 22, titled "Summary of Marine Waste Disposal Research Program in California". The report was prepared by a research consulting board, comprised of Doctors Erman A. Pearson, Richard D. Pomeroy and Jack E. McKee, in accordance with a contractual requirements to advise and make recommendations in the planning and execution of the State Board's research program. The purpose of the summary is to describe the origin, nature, scope, aims, progress, significant findings, and future plans of the entire marine waste disposal research program in California.

Background information on the history and scope of the State Board's marine research program is contained in Chapter I - Introduction, and Chapter II - Objectives, Scope and Funding. Recommendations for future work are given in Chapter X - Guidelines for Further Research.

Single reference copies of this publication have been furnished without charge to governmental officials and agencies directly concerned with coastal water pollution control and related fields, and to educational institutions and libraries. Copies may be purchased from the State Printing Division,

ASCE Sanitary Engineering Division 1961-3--13
Documents Section, Sacramento 14, California, at a cost of \$1.00 per copy.
Remittance must accompany order.

PENNSYLVANIA RECEIVES "CLEAN STREAMS" AWARD

Pennsylvania has won national recognition for the success of its Clean Streams Program. Dr. C. L. Wilbar, Jr., as State Health Secretary and Sanitary Water Board Chairman, received an award from the National Wildlife Federation for Pennsylvania's water pollution abatement program. The program is administered by the Sanitary Water Board, with the assistance of the Health Department's sanitary engineering division and aided by cooperating municipalities and industries.

Seth L. Myers, of Sharon, state chairman of National Wildlife Week, in presenting the award to Dr. Wilbar called Pennsylvania's Clean Streams Program, "a model for the nation".

Dr. Wilbar reported that since the augmented Clean Streams Program was initiated in 1937, more than 70 percent of the state's water-using industries are providing their own wastes treatment, while more than 80 percent of the population of sewered municipalities now enjoys sewage treatment facilities.

POLLUTION COMPLAINTS HEARD BY GEORGIA WATER COUNCIL

Several complaints of water pollution and fish kills in Georgia streams were heard recently by the Georgia Water Quality Council at its quarterly meeting. The Council is an advisory group to the State Board of Health on matters of maintaining the quality of water in Georgia's rivers and lakes, particularly in matters affecting the health of the public.

Roy J. Boston is secretary of the Council and director of the Environmental Health Branch of the Georgia Department of Public Health.

LOUISIANA POLLUTION BEING CONTROLLED

Major strides in abating pollution in 20 Louisiana river or stream basins, bayous, and watersheds were cited recently by the Louisiana State Board of Health in a comprehensive report on water pollution control in the State.

The report, first of its kind issued by the Board, indicated that the number of communities with public sewage treatment facilities increased by more than 64 percent in the last few years, from 77 in 1953 to 127 in 1960.

John E. Trygg, director of the Division of Public Health Engineering said that the projects listed in the report will help safeguard a considerable share of the state's drinking water, and help preserve streams for recreation and shellfish production. Domestic sewage from increasing urban population was the source of most of the pollution corrected by the projects listed in the report.

NEW RESEARCH ON ORGANIC POLLUTANTS

The Pennsylvania Department of Health has been awarded a \$34,861 grant for research in organic water pollutants, Dr. Charles L. Wilbar, state health secretary, announced recently.

Dr. Charles S. Myers, the department's research chemist, said the new

1961-3--14

SA 1

January, 1961

research grant will enable expansion of present work on the identification of such organic pollutants as oils, pesticides, detergents and other synthetic organic substances unknown only a few years ago. He said studies will also be made on tissues taken from fish collected in fish killings.

DIATONITE FILTER STUDY AT IOWA STATE

The National Institutes of Health of the U. S. Public Health Service have announced a Grant Award of \$56,751 to co-investigators Paul E. Morgan, P. E., Associate Professor of Civil Engineering and Dr. E. Robert Baumann, P. E., Professor of Civil Engineering of Iowa State University. The Grant will finance a 3-year study of "Design Requirements for Municipal Diatomite Filters". Professor Baumann has returned to Iowa State University after completing a year of postdoctoral study under a National Science Foundation Science Faculty Fellowship at the University of Durham, Kings College, Newcastle on Tyne, England.

NATIONAL WATER RESEARCH SYMPOSIUM PLANNED

Two national organizations, vitally concerned with the land and water resources of the United States, have agreed to jointly sponsor a national water research symposium. They are the National Association of Soil Conservation Districts and the National Reclamation Association. The symposium will be held at the Sheraton Park Hotel in Washington, D.C., March 28-30, 1961.

PUBLIC HEALTH SERVICE STARTS GREAT LAKES STUDY

Surgeon General Leroy E. Burney recently announced the start of a six-year anti-pollution study of the United States jurisdiction of the Great Lakes Basin-Illinois waterway.

Under a \$500,000 appropriation by the Congress, the Public Health Service's Division of Water Supply and Pollution Control will direct immediate attention to:

1. An inventory of all points of inflow into the Chicago River, Sanitary and Ship Canal, the Calumet-Sag Canal, and their tributaries;
2. Measurement and analysis of municipal and industrial wastes being discharged at such points of inflow;
3. Effect of such discharges on water quality of the Illinois Waterway under present rate of flow;
4. Methods of improving water quality of the Illinois Waterway;
5. Determination of water quality of the Illinois Waterway under present and various decreased rates of flow.

The six-year study of the United States portion of the Great Lakes Basin-Illinois Waterway is designed to aid development of a comprehensive plan to control and prevent pollution in the area.

The recent appropriation of \$500,000 covers the first year of the project. The funds will be used to start intensive studies of the kinds and amounts of municipal and industrial wastes being discharged into the waterways within the metropolitan area of Chicago, and the pollutant effects of these wastes in the waterways in Chicago. Laboratory facilities and staff are being organized to conduct the project. A 40-man staff of engineers, chemists, biologists, and other scientists and technicians is being assembled.

ASCE Sanitary Engineering Division 1961-3--15

Project headquarters will be in Chicago, under the direction of the Public Health Service's Division of Water Supply and Pollution Control. William Q. Kehr is Project Director. The overall project is being coordinated by H. W. Poston, Program Director of the Regional Office of the Public Health Service in Chicago.

A Special Master of the Supreme Court is now conducting hearings in cases which concern the use of Lake Michigan water and to which the States of Wisconsin, Michigan, Illinois, Minnesota, New York, Pennsylvania and Ohio and the United States are parties. The study is being planned so that data gathered in the first phases will assist the Court in making its decisions.

CONSERVATION GROUP ISSUES NEW COLUMBIA BASIN BOOKLET

Washington, D.C.--The National Wildlife Federation has announced publication of a new booklet, "Conservation of Natural Resources in the Columbia Basin". The 16-page publication was prepared by staff personnel of the National Wildlife Federation after extensive conferences with officials of federal and state resource agencies and edited by William L. Reavley of Salt Lake City, Utah.

In brief, the new booklet says: "Orderly development of a balanced civilization in America's Great Northwest must include conservation and rebuilding of the salmon runs, preservation of scenic and wilderness treasures, and conservation of game, along with irrigation, power and flood control". It outlines: facts related to the Columbia River Basin today, significance of developments to all Americans, principles which should be considered in re-resource-development plans, the Columbia fish sanctuary program, how dams cause fish losses and impoundments limit wildlife habitat, effects upon the recreation industry, and needs for additional research. Maps and tables illustrate data on proposed dams.

Single copies of this booklet may be obtained without charge from Educational Servicing, National Wildlife Federation, 1412 16th Street, N.W., Washington 6, D. C. Quantity orders are available at the cost of publication.

SANITARY ENGINEERING EDUCATION

NEW RESEARCH FACILITIES GRANTS MADE

Seventeen Health Research Facilities grants, totaling \$3,049,999 were recently made by the Public Health Service to 16 institutions in 14 States. These grants are the second group of awards made from Fiscal Year 1961 funds. Included were grants to the following institutions:

Colorado State University Fort Collins, Colorado	Sanitary Engineering Research Facility and Equipment	\$143,500
Iowa State University of Science and Technology	Food Sanitation and Preservation Research Laboratories	\$111,520
Rutgers - The State University New Brunswick, New Jersey	Sanitary Engineering Research Laboratories and Equipment	\$ 48,963

The Health Research Facilities Program, established in 1956 as a three-year program with authorization for an annual appropriation of \$30,000,000 and renewed through Fiscal Year 1962, awards funds on a matching basis to

1961-3--16

SA 1

January, 1961

public and private nonprofit hospitals, medical and dental schools, schools of public health, and other research institutions, for building and equipping health research facilities.

This program is administered by the Division of Research Grants of the National Institutes of Health. Recommendations for grants are made by the Health Research Facilities National Advisory Council to the Surgeon General of the Public Health Service, who approves the grants.

NEW GRADUATE TRAINING GRANTS

The Public Health Service recently reported the award of 24 project grants for graduate training in public health totaling \$470,611. These grants, the first made under new legislation enacted by Congress last August, were awarded to 23 schools in 18 States and the District of Columbia.

Purpose of this legislation is to strengthen or expand graduate public health training in schools of public health and in those schools of nursing and engineering that provide graduate or specialized training in public health. Special emphasis is placed on improving curricula to meet the needs of changing and emerging public health programs, strengthening courses of basic training in public health administration, developing and demonstrating improved training methods and procedures, and enlarging faculties and staff to provide for increased enrollment.

Among the approved applications were the following projects:

<u>LOCATION</u>	<u>INSTITUTION</u>	<u>AMOUNT</u>
FLORIDA	University of Florida Department of Civil Engineering	\$12,465
GEORGIA	Georgia Institute of Technology School of Civil Engineering	17,000
ILLINOIS	University of Illinois Department of Civil Engineering	14,386
MASSACHUSETTS	Harvard College School of Engineering	15,000
MISSOURI	Washington University Division of Sanitary Engineering	29,052
NEW JERSEY	Rutgers State University Department of Civil Engineering	14,472
NEW MEXICO	New Mexico State University Department of Civil Engineering	6,210
NEW YORK	Cornell University School of Engineering Syracuse University Department of Civil Engineering	32,519 15,606
OKLAHOMA	University of Oklahoma College of Engineering Oklahoma State University School of Engineering	12,150 37,400

<u>ASCE</u>	<u>Sanitary Engineering Division</u>	<u>1961-3--17</u>
<u>LOCATION</u>	<u>INSTITUTION</u>	<u>AMOUNT</u>
OREGON	Oregon State College School of Engineering	\$21,190
TEXAS	University of Texas School of Engineering	29,538
WASHINGTON	Washington State University Department of Civil Engineering	7,695

AIR POLLUTION

SUPREME COURT TO LISTEN TO AIR POLLUTION ARGUMENT

The U. S. Supreme Court agreed to review a Federal Court of Appeals decision, reversing the Federal Power Commission and permitting the use of natural gas to fire the boilers of Consolidated Edison's power plant near the United Nations building in Manhattan. New York City is supporting the company's request for the gas, as an aid to air-pollution reduction. The argument will be held at the Supreme Court term beginning in October. No decision is likely before winter.

BRITISH VISITOR REPORTS ON 3-YEAR AIR POLLUTION STUDY

Final reports of the three-year study on atmospheric pollution made by Dr. Percy Stocks for the Medical Research Council, London, England, will be published shortly. Dr. Stocks is acting as consultant for the World Health Organization on problems of occupational health at the invitation of the United States National Office of Vital Statistics. The study just completed considered air pollution in northern England and Wales and its relation to mortality from cancer, bronchitis and pneumonia. Samples were taken from twenty-six localities of the amount of suspended matter in the air, and its content of polycyclic hydrocarbons and trace elements (not of any gaseous substances) over a period of a year or more, and the results were correlated with standardized mortality rates in the same areas in order to determine which of the substances might be most closely related to the mortality rates. The final reports will show (after allowing for factors which might produce spurious correlation) that concentrations of several substances were related statistically with mortality from lung cancer and bronchitis, and for the most part these were substances already known to carcinogenic, or to be irritant to the respiratory tract in high concentrations. This might mean that exposure to very small amounts of such substances in urban air over long period of years can affect the respiratory system. Dr. Stocks says, "My belief is that more extensive study of this problem should be carried out in other countries, and it would be useful if these could be combined with ascertainment of the smoking habits and the residential and occupational histories of the populations concerned".

Dr. Stocks has been in the field of medicine since receiving his medical degree in 1913. Of special note is his work on the International Classification of Diseases for the World Health Organization. In 1957, after completing a survey of five year duration in the north Wales and Liverpool hospital region covering two and one-half million people for the British Empire Cancer Campaign, Dr. Stocks decided to concentrate on two factors of importance in

1961-3--18

SA 1

January, 1961

connection with cancer, (1) air pollution, and (2) the chemical nature of the soil. After his work here is finished, Dr. Stocks will continue his stay in the United States to visit the National Institutes of Health in Bethesda, Maryland and also Cincinnati, Pittsburgh, and San Francisco.

NEW SMOG CONDITION ADVISORY SERVICE

Advance warning of impending severe smog conditions is now available to all cities east of the Rocky Mountains under a new cooperative network operated by the Weather Bureau and the Public Health Service.

Thirty-six States will be able to get warning bulletins by teletype from the Weather Bureau Research Station, located at the Public Health Service's Sanitary Engineering Center in Cincinnati. The station is financed by a Public Health Service grant.

"Stagnation Bulletins," so called because the danger of smog is greatest when air is abnormally calm, will be issued whenever weather conditions warrant. With this advance warning, cities can curb traffic, industrial, and other sources of pollution during the danger period.

The Stagnation Bulletins will be distributed through local Weather Bureau stations and, normally, only to air pollution control officials and representatives of industry, to inform them of weather conditions likely to contribute to the buildup of high levels of air pollution. Interested agencies or groups may make arrangements to receive the forecasts by getting in touch with the Meteorologist-in-Charge at the nearest U.S. Weather Bureau station.

The new, year-around, forecasting program has been developed from similar programs carried on from a more limited scale during the fall seasons of the past three years. In previous years, the primary objective was to relate weather conditions to air pollution levels as measured by the National Air Sampling Network of the Public Health Service. Special sampling programs were started in the affected area whenever an air pollution "alert" was forecast.

UNITED STATES AND CANADA REPORT ON ATMOSPHERIC POLLUTION IN DETROIT AREA

The report requested January 12, 1949 of the International Joint Commission by the Secretary of State for the Government of the United States and the Prime Minister for the Government of Canada about air pollution in the Detroit River area has been completed and was released in September. The title is "Report of the International Joint Commission (United States and Canada) on the Pollution of the Atmosphere in the Detroit River Area." The study replies to (1) Is the air polluted? In quantity detrimental to public health, safety or general welfare of the citizens, or to property interests on either side of the international boundary line? By vessels plying the Detroit River? (3) If so, what preventive or remedial measures would be most practical? What probable cost? By whom should cost be borne?

Information concerning copies is available from the Information and Education Office, Division of Air Pollution, U.S. Public Health Service, Washington 25, D.C.

ASCE

Sanitary Engineering Division

1961-3--19

COMMISSIONERS APPROVE POLLUTION SURVEY OF WASHINGTON AIR

Dr. Daniel L. Finucane, Director of Public Health, was given responsibility by the District of Columbia Commissioners on October 25 for a project to survey and monitor air pollution in D.C. The study, to be under way in a few months, will provide a continual check against pollution buildup to hazardous levels as well as data on extent of pollution, trends in air quality, and identification of agents responsible for definite injury, damage or nuisance. The Public Health Service will cooperate with the Weather Bureau, Department of Agriculture, Armed Forces Institute of Pathology, Maryland and Virginia Departments of Health and agencies of the District Government in carrying on the project.

MASSACHUSETTS GOVERNOR APPROVES AIR POLLUTION CONTROL DISTRICT

On October 3, 1960, a bill passed by the legislature of Massachusetts was approved by the Governor, thus establishing a Metropolitan Air Pollution Control District which includes the city of Boston and adjoining Communities.

The State Department of Health is given authority for control of air pollution in the District and for promulgation of rules and regulations related to such control activities.

The Act, among other things, provides for reimbursement to the State by taxing the residents of the communities comprising the District. Authority is given for the formation of other air pollution control districts within the Commonwealth of Massachusetts.

NEW ORLEANS ASTHMA OUTBREAK ALERTS AIR POLLUTION INVESTIGATORS

Air samplings and atmospheric data collected the night of September 21 may provide the answer to the mystery source of severe asthma outbreaks in New Orleans. Seventy gasping and wheezing adults were admitted to Charity Hospital from 9 o'clock until 3 the next morning in this year's worst assault.

Air pollution investigators immediately began scientific research to pinpoint the source of air contamination.

NEW DUST LEVEL MONITORING TECHNIQUE

A novel technique for monitoring personnel or vehicular movement and activity by measuring the dust level in the air has been developed by Armour Research Foundation. The technique is based on measuring the concentration and size distribution of dust particles in the air utilizing a particle counter developed by ARF in 1956.

The Armour technique evolved through a series of projects conducted for various sponsors since the particle counter was developed. These included analyses of "clean room" assembly facilities for gyroscopes and other sensitive instruments.

The results of these projects indicated that certain measures should be taken by the management and employees to reduce the amount of dust suspended within the room and the introduction of dust into the room from outside.

1961-3--20

SA 1

January, 1961

While evaluating and corroborating the statistical and factual data from these projects, the Foundation people were able to correlate variations in dust level and difference in dust particle size to movements and activities of the workers and machinery.

These same correlations and indices can be adapted to monitoring most any type of activity beyond the immediate area of the activity. Particle counters--now run and observed by personnel--are planned so that they require no attention and will automatically make records of dust particle counts and sizes of the particles for an operator to collect periodically.

Particle counters can be removed from an area of activity and still monitor that activity. Movements in a room can be monitored through an air duct from a considerable distance.

Dust monitoring can be used in detection applications--either military or civilian--where infra-red or ultra violet systems cannot, or where the use of such systems with their giveaway electronic characteristics would compromise the location or presence of a monitoring system.

NUCLEAR ENERGY

NORTH CAROLINA RAD SEMINAR

The Seventh Annual Radiological Health Seminar at the University of North Carolina, Chapel Hill, will be conducted by the School of Public Health and the North Carolina State Board of Health on January 30-31, 1961. The theme of this Seminar will be "The Concept of Total Dose Assessment." Dr. K. Z. Morgan of the Oak Ridge National Laboratory and Dr. Richard Chamberlain of the University of Pennsylvania and Dr. Jan Lieben of the Pennsylvania State Health Department will be among the instructional staff. Personnel of the Public Health Service, the University, and the State Health Department will do laboratory and seminar instruction. Address inquiries to: Professor Emil T. Chanlett, P. O. Box 899, Chapel Hill, North Carolina.

AEC PUBLISHES NEW PROTECTION STANDARDS

The Atomic Energy Commission has published new "Standards for Protection Against Radiation" (10 CFR Part 20) which became effective January 1, 1961. These standards have been amended to bring the Commission's radiation exposure standards and concentrations in water and air into conformity with the most recent recommendations of the National Committee on Radiation Protection and the Federal Radiation Council. Also included are revised reporting and waste disposal requirements.

PHS OPENS NEW RAD LABORATORY

The Division of Radiological Health, Public Health Service, has opened its Radiological Health Laboratory at Rockville, Maryland. This Laboratory will be used in part for the evaluation of instruments for environmental monitoring and as a teaching and demonstration facility on x-ray protection as well as a radio-chemical laboratory for the routine evaluation of environmental media for radioactivity.

ILLINOIS RADIATION INSTALLATIONS ARE CHECKED

Radiation exposure, that may affect the public health and safety, is of growing concern to the state Department of Public Health. Illinois is one of the first states to enact and implement a radiation protection act (July 1959). Responsibility for radiological health lies in the Division of Sanitary Engineering.

Rules and regulations are being formulated and plans made to facilitate regular and periodic investigations and inspections of all radiation installations in the state. This includes nuclear reactors as well as industrial and medical installations. Total registered installations in the state now number 7361, which includes hundreds of users of radioactive materials, such as cobalt, radium, iodine, gold, etc. An adequate inspection system is being initiated to follow up on licensees to determine if they are performing in accordance with their license for the use and possession of the materials.

Toward the immediate goal of sufficient inspectors to carry out the new law, 14 qualified x-ray technicians have been employed by the Department. Prior to being placed in the field, these technicians have undergone a comprehensive training period consisting of lectures and demonstrations, review of basic nuclear physics, mathematics and instrumentation, all necessary in thorough checking of radiation installations.

COURSES IN HEALTH PHYSICS

The Atomic Energy Commission is offering intensive courses in health physics for representatives of state and local governments as a part of the encouragement of the states for the assumption of control of certain radioactive materials under the amended Atomic Energy Act. The AEC's Health and Safety Laboratory in New York, began a 10-week course in health physics in October and will repeat the course in February, 1961. Argonne National Laboratory expects to offer the course early in 1961. Similar instructions will be provided at Oak Ridge, Tennessee starting in January and in March, with a four-week course on radio-isotope techniques followed by a six-week course in health physics at Oak Ridge National Laboratory beginning April, 1961. Information can be obtained from the State - AEC Relations Branch, Office of Health and Safety, U.S.A.E.C., Washington 25, D.C.

John R. Thoman, EDITOR
1362 N. Decatur Road
Atlanta 6, Georgia

ASSISTANT EDITORS

Prof. Gilbert H. Dunstan
State Institute of Technology
Pullman, Washington

Walter A. Lyon
State Dept. of Health
Box 90
Harrisburg, Pennsylvania

Phillip N. Storrs
Roy E. Ramseier and Associates
1539 Solano Avenue
Berkeley 7, California

1961-3--22

SA 1

January, 1961

CONFERENCE ON ENVIRONMENTAL ENGINEERING AND
URBAN PLANNING

. . . a working session for civil engineers, city planners, public health specialists and governmental officials -- to consider both the goals and the means for positive action toward the achievement of a more healthful environment in metropolitan areas. . .

Sponsored by:

NORTHEASTERN ILLINOIS METROPOLITAN AREA PLANNING COMMISSION

TECHNOLOGICAL INSTITUTE OF NORTHWESTERN UNIVERSITY

UNITED STATES PUBLIC HEALTH SERVICE

THE AMERICAN SOCIETY OF CIVIL ENGINEERS
(City Planning and Sanitary Engineering Divisions)

Tuesday and Wednesday -- March 21 and 22 -- 1961

CONFERENCE CHAIRMAN: Dr. John A. Logan, Chairman
Department of Civil Engineering
Northwestern Technological Institute

CO-CHAIRMEN: Daniel W. Evans, Regional Coordinating
Engineer
United States Public Health Service
Paul Oppermann, Executive Director
Northeastern Illinois Metropolitan Area
Planning Commission

COORDINATING DIRECTOR: Professor Howard T. Fisher, Chairman
Committee on Urban and Regional Planning
Northwestern Technological Institute

CONFERENCE OBJECTIVES

A pressing need exists to establish a more effective and intimate working relationship between civil engineers and planners. Several inter-related factors serve to stress the urgency that exists in this regard:

- 1) The complexity and rapid tempo of modern life.
- 2) The acceleration of population growth.
- 3) The trend toward urbanization.

These forces combine to produce metropolitan agglomerations of vast social, economic and physical complexity -- involving high population densities spread over large areas on a scale entirely new to human experience.

The need for more and better trained professional city planners, qualified to cope with the interlocking complex of problems inherent in such growth, has for some time been recognized, and is now increasingly being met. The corresponding need for civil engineers well prepared to aid in the physical aspects of metropolitan area development has not been so well appreciated. In earlier days, as was perhaps not inappropriate for a geographically

expanding America of primarily rural character, the role of civil engineering related more to large-scale regional projects such as canals, dams, and railroads, or to urban projects to meet specific and relatively independent situations such as bridges or water supply. In contrast, civil engineering's greatest opportunities to be of service today are more to be found in the closely interlocking problems of metropolitan area development, few of which can be dealt with as isolated undertakings complete in themselves.

Sound city planning must increasingly benefit from the most imaginative and forward-looking employment of civil engineering skills -- and sound civil engineering must correspondingly profit from a better understanding of the relatedness of undertakings in serving the needs of human beings living intimately together. The best planning results cannot possibly be achieved without the effective integration of civil engineering skills. Equally, good civil engineering results can be achieved only when work is carried out in terms of a clear understanding of planning needs and goals.

In the civil engineering field of transportation and traffic the realities of the situation have become increasingly apparent during recent years, and as a result great progress has been made toward establishing a basis for mutual understanding and cooperation between civil engineers and city planners. In contrast, however, no such degree of reciprocal understanding exists in regard to the other major areas of mutual interest and interdependence. Reference here is particularly to those types of problems which can be broadly grouped under the title of "environmental health." These embrace the fields of sanitary engineering, flood control and surface-water disposal, water supply, waste collection and disposal (solid as well as liquid, including radioactive wastes), air pollution, insect and rodent control, mobile housing, and other subjects affecting the public health which assumes such crucial importance today wherever human beings congregate in great numbers. Intimately involved in the problem, for example, is the increasingly important field of public recreation, which in turn increasingly depends upon the wise use of water resources. This presents an especially difficult situation in areas where, due to great density of use, such resources are subject to ever-increasing pressures tending to pollution. As another and minor example, illustrative of the opportunity for constructive liaison between planners and engineers, study might relate to the employment of solid wastes for the enhancement of topographic variety and recreational potential, to replace present policies tending in the opposite direction. Closely peripheral subjects include problems of orientation to sunlight, prevailing winds, lake currents, etc.

Against this background, the objectives of the conference, in relation to environmental health, may be summarized as follows:

- 1) To define the engineering parameters of the metropolitan area problem, and to clarify the interrelationships between planning and civil engineering.
- 2) To project and crystallize those planning principles bearing on the environmental health aspects of metropolitan area development.
- 3) To alert city planners, public health specialists, legislators and public officials generally, as well as civil engineers, to the increasing seriousness of the environmental health aspects of metropolitan growth, and to the pressing need for advance planning including the reservation of land for future needs in relation to water supply, flood control, waste disposal, etc.

1961-3--24

SA 1

January, 1961

- 4) To establish a better understanding among city planners concerning the role of civil engineering in the expansion of metropolitan areas.
- 5) To establish a better understanding among civil engineers of the need for correlating engineering activity with overall planning goals and concepts.
- 6) To exchange ideas and pool the experiences of different professional groups working in different metropolitan areas in regard to the problems of environmental health.
- 7) In general, to encourage a more unified approach to urban problems, to foster better liaison among leading professionals concerned with the problems of environmental health in metropolitan areas, to build mutual respect and understanding and to establish closer personal relations.

It is hoped that the conference may prove a landmark in terms of its objectives, and serve to initiate an era of increasing cooperation and more effective work in the field of environmental health, comparable to that which has recently been established in the field of transportation and traffic.

ASCE MANUAL ON SEWAGE TREATMENT PLANT DESIGN

The result of several years of work by a joint committee of the Sanitary Engineering Division of ASCE and the Water Pollution Control Federation (formerly the Federation of Sewage and Industrial Wastes Associations) is available in a manual entitled "Sewage Treatment Plant Design." In this manual the joint committee has summarized and interpreted current practices in the design of sewage treatment plants. The committee does not attempt to approve or disapprove the practice, but merely reports what is being done.

Copies of ASCE Manual 36 can be obtained by use of the coupon herewith. The list price is \$7.00, with ASCE members and libraries receiving a 50% discount. Engineers who are members of WPCF but not of ASCE are urged to order their copies through the Federation so that the member discount of 50% will be available to them.

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